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#### REMARKS

In the final Office Action claims 40-42 are pending and claims 41 and 42 rejected. Herein claims 40 and 41 are amended, no claims canceled and new claims 43 and 44 are added.

The present Amendment After Final is intended to place the application in condition for allowance, avoid raising additional issues and not require any additional searching or application of newly identified prior art. Applicants respectfully request entry and favorable consideration of the remarks and amendments tendered herewith.

In addition, Applicant herewith respectfully requests that the Examiner withdraw the finality of the instant Office Action so that the claims can be examined on the merits.

# Objection to the Specification

The specification is objected to as the Examiner asserts that the recited claim limitations relating to "mathematical integral." In response Applicant cites the specification as filed; specifically claims 18, 34, and 41 and the following passage at page 16:

In one configuration, microcomputer circuit 58 calculates an integral of the blood flow rate signal to estimate the volume of blood flowing through the coronary sinus.

Applicant respectfully asserts that those of skill in the art readily appreciate this type of basic mathematical manipulation in order to gauge the magnitude of an area underlying a trace (e.g., a temporal sensor signal).

#### CLAIM REJECTIONS UNDER 35 U.S.C. §112

Claim 41 stands rejected under 35 U.S.C. §112, first paragraph, because the Examiner contends that a "mathematical" integral is neither defined nor described how it is determined.

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Applicant herewith recite a portion of the specification as filed and respectfully asserts that to one of skill in the art there can be no question that the phrase "mathematical integral" is arguably more precise than the word "integral," and, as such, Applicant notes that the rejected claims utilize language clearly reflected in the specification as filed or, in the alternative, pursuant to principles of inherency).

Applicant states that the language used in the specification clearly reflects the phraseology used in the prior amendment and to the extent the Examiner does not agree Applicant hereby invokes the basic principles of inherency (in addition to utilizing the perspective of a person of skill in the art).

However, Applicant respectfully asserts that certain of the terms utilized in the rejected claims are in fact supported in the specification as filed. For example, from the application as filed (page 16, line 20 to 25):

Because the volume of blood flowing into the arterial system equals the volume flowing out of the venous system, the flow rate of blood exiting the coronary sinus can be used as an indicator of the coronary blood supply. In one configuration, microcomputer circuit 58 calculates an integral of the blood flow rate signal to estimate the volume of blood flowing through the coronary sinus. (emphasis added.)

### **CLAIM REJECTIONS UNDER 35 U.S.C. §103**

Claims 41 and 42 stand rejected as being anticipated under 35 U.S.C. §102(b) by Soykan et al. ("Soykan") in combination with several other references.

Applicant herewith amends independent claim 40 and dependent claim 41 so that the pending claims 40-42 are now sufficiently distinguished from Soykan, Nappholz, Guracar and Ferek-Petric.

Applicant respectfully requests the Examiner to withdraw the present grounds of rejection so the claimed invention may pass to timely issuance as U.S. Letters Patent.

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## CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited so that the claimed invention may proceed to timely issuance as U.S. Letters Patent.

The Examiner is invited to contact the undersigned to discuss any issues related to the present application.

Respectfully submitted,

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